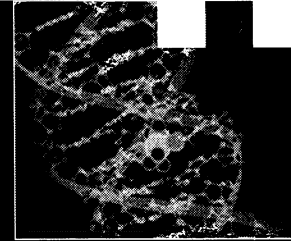
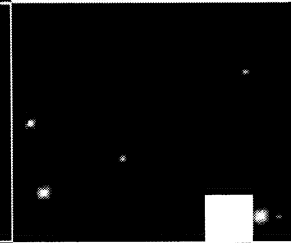
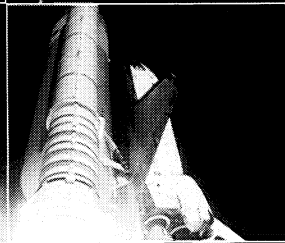
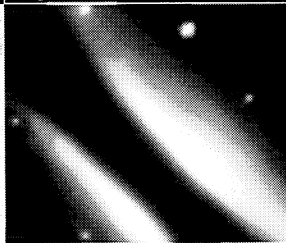
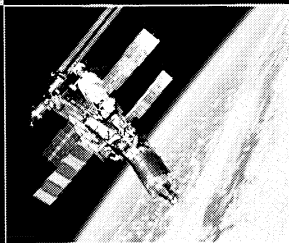
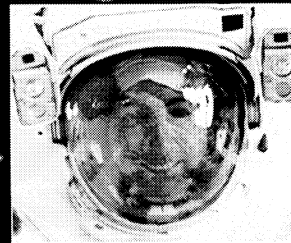
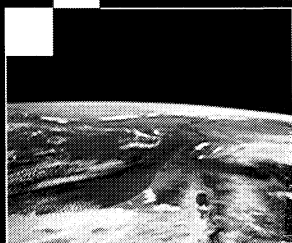




National Aeronautics and
Space Administration

NASA OFFICE OF SMALL AND DISADVANTAGED BUSINESS UTILIZATION



FY 2001 ANNUAL REPORT

**NASA Office of Small and
Disadvantaged Business Utilization
FY 2001 Annual Report**

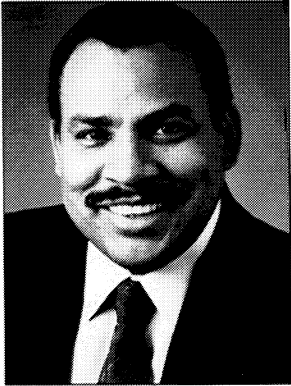


The staff of the Office of Small and
Disadvantaged Business Utilization
(left to right): Tony Diamond,
Lamont Hames, Linda Czar,
Vernell Jackson, Ralph Thomas,
Tom Green, and Anila Strahan.





Statement of the Assistant Administrator for Small and Disadvantaged Business Utilization



The sense of security that we took for granted was shattered on September 11, 2001. After the initial shock and disbelief following the events of that day, we now realize that our lives will never be the same. In the aftermath of these tragic events and in memory of the thousands who lost their lives, the NASA Office

of Small and Disadvantaged Business Utilization (OSDBU) delayed the NASA recognition and awards ceremony that is held at the end of each fiscal year to honor small and disadvantaged businesses and other individuals, both within and outside NASA, who have gone beyond the call of duty in facilitating the full integration of such firms into our permanent competitive base of contractors.

Despite the unfortunate circumstances of September 11, however, Fiscal Year (FY) 2001 was a very successful year for NASA with regard to a variety of small business activities. As the small business advocacy office, the OSDBU promoted and increased the utilization of small, disadvantaged, and women-owned businesses in NASA contracts and subcontracts. During the last 9 years, NASA increased the total prime and subcontract dollars from \$2.2 billion to \$3.6 billion. That translates into nearly one-third (32.2 percent) of NASA's total contract and subcontract dollars. Meanwhile, NASA tripled its total prime and subcontract dollars to minority small disadvantaged businesses from \$550 million to \$1.6 billion. During that same period, we also tripled our prime and subcontract dollars to women-owned businesses from \$219 million to \$708 million. Additionally, NASA significantly surpassed its congressionally mandated 8-percent goal for small, disadvantaged businesses by achieving an amazing 19.3 percent for FY 2001—\$2.2 billion.

In FY 2001, safety remained NASA's number-one priority. Thus, the OSDBU ensured that safety was the number-one priority in all NASA programs and initiatives for small businesses. We made a company's approach to safety a critical factor in our Quarterly

SDB Aerospace Technology Forums and in the Semi-Annual Science Forums in which select disadvantaged businesses are provided with an opportunity to present their capabilities to NASA technical managers at the Field Centers. Safety was also a criterion for being selected for the annual Goldin-Stokes Mentor-Protégé Award presented at our Annual Mentor-Protégé Conference, as well as for our Annual Minority Business and Advocates Award Ceremony. The OSDBU stressed the importance of incorporating the customer requirement for safety in all aspects of work and decisionmaking by small businesses.

In FY 2001, NASA introduced its first training seminar to small businesses on "How to Commercialize NASA Technology." We also started a series of learning seminars for small businesses on the negotiation of teaming agreements with large businesses, which have proved popular in all regions of the country.

We are most proud, however, of the quality of work provided to NASA by small, minority, and women-owned businesses in some of our most critical space missions. You will read about these and other OSDBU accomplishments in the pages that follow.

The OSDBU FY 2001 Annual Report was prepared to document the performance of the OSDBU, and it will serve as a benchmark for future performance and as a gauge for our best practices.

It is my great pleasure to present the first OSDBU Annual Report. The accomplishments contained in this report are a reflection of the commitment to excellence by the OSDBU team, which includes not only the staff located at Headquarters, but also the Small Business Specialists and the Small Business Technical Advisors at the Field Centers, including our small business partners at the NASA Jet Propulsion Laboratory, the Center for Technology Commercialization, and our prime contractors. Their collective energy and enthusiasm enabled us to fulfill our mission in an outstanding manner.

Ralph C. Thomas III



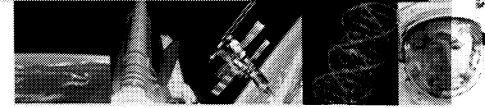
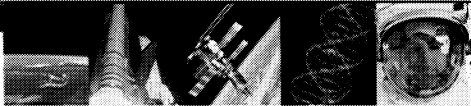


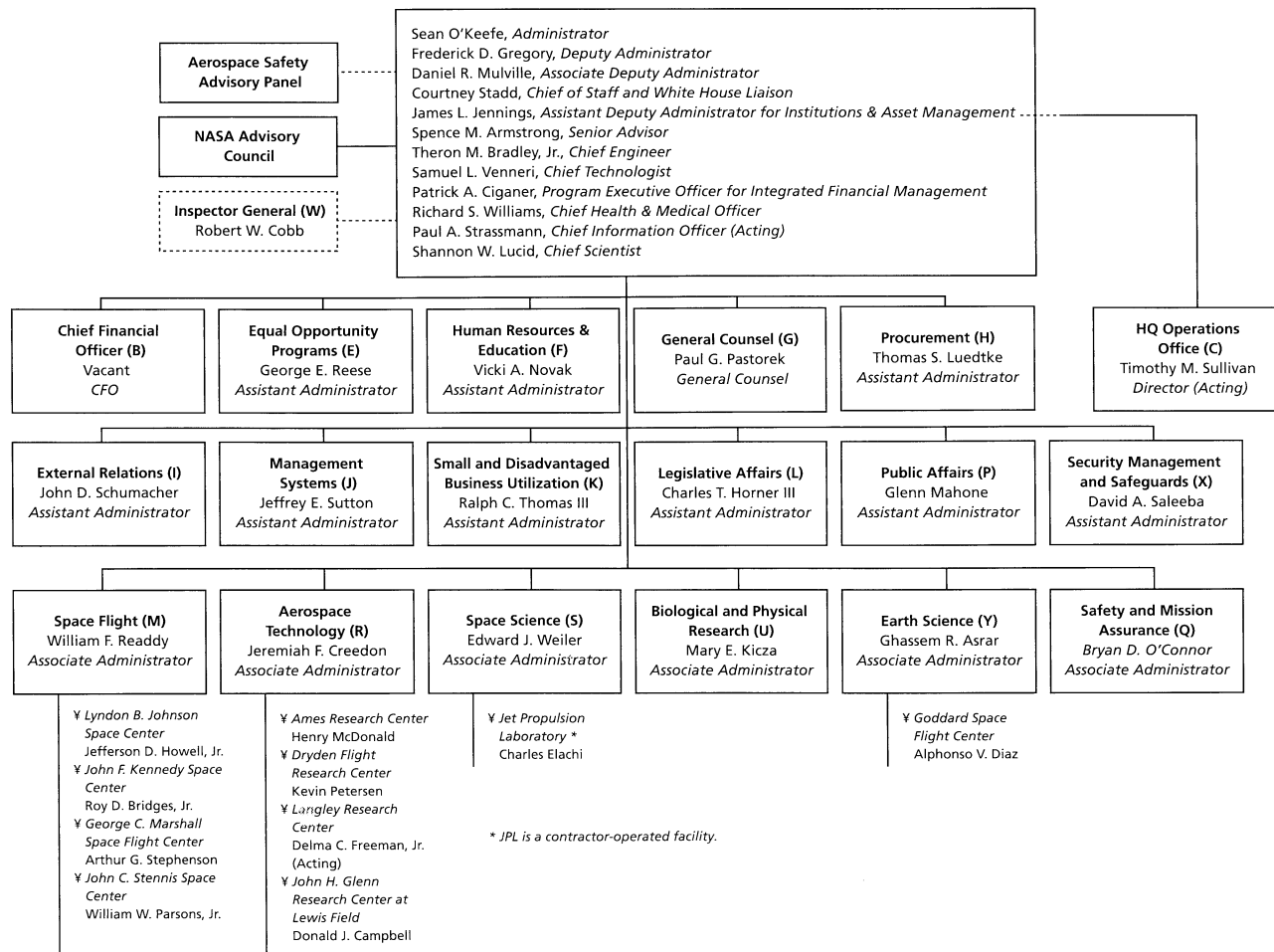
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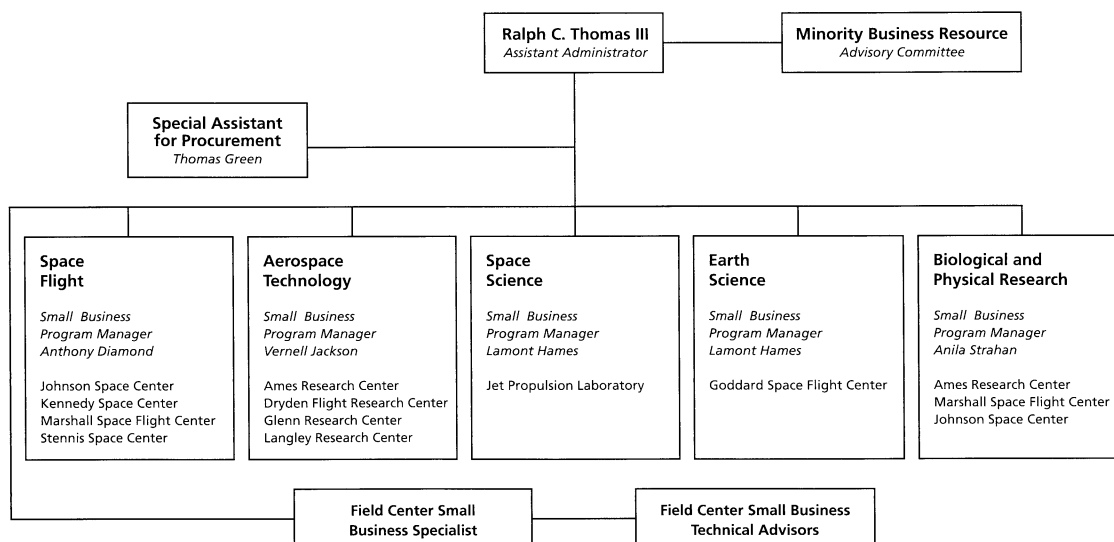


NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Office of the Administrator



OSDBU Organization Chart

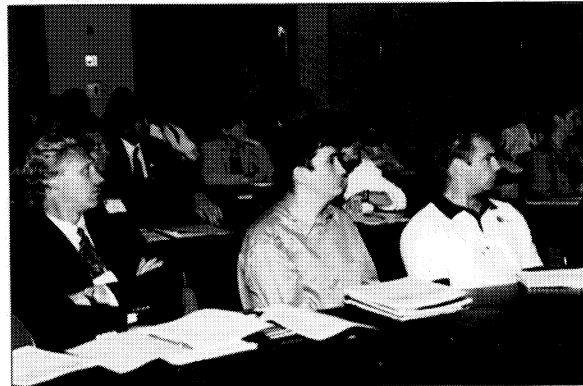




OSDBU's Driving Philosophy

The Office of Small and Disadvantaged Business Utilization (OSDBU) within NASA promotes the utilization of small, disadvantaged, and women-owned small businesses in compliance with Federal laws, regulations, and policies. We assist such firms in obtaining contracts and subcontracts with NASA and its prime contractors. The OSDBU also facilitates the participation of small businesses in NASA's technology transfer and commercialization activities.

Our Driving Philosophy is to consider small businesses as our products. Our customers are the NASA Enterprises, Field Centers, Functional Staff Offices, major prime contractors, and other large institutions. We hone the skills of our products to make them marketable to our customers in the performance of NASA missions.



Honing the skills of our products.



Marketing to NASA customers.

SMALL BUSINESS LAWS AND REGULATIONS

The Small Business Act as amended requires 1) the establishment of the Office of Small and Disadvantaged Business Utilization (OSDBU) in every Federal agency with procuring authority; 2) prime contractors to submit separate percentage goals that represent maximum practicable opportunities for small businesses, small disadvantaged businesses, women-owned small businesses, Historically Underutilized Business (HUBZone) contractors, service-disabled-veteran-owned businesses, veteran-owned small businesses, Historically Black Colleges and Universities (HBCUs), and Other Minority Institutions (OMIs) in subcontracting plans; 3) Federal agencies to negotiate annual prime and subcontracting goals with the U.S. Small Business Administration (SBA) for above categories of small businesses; and 4) Federal agencies to report achievement toward goals to the SBA on an annual basis.

In addition, specifically for NASA, the Public Law 101-144 (1990) states that "the NASA Administrator shall annually establish a goal of at least 8 per centum of the total value of prime and subcontracts awarded in support of authorized programs, including the space station by the time operational status is obtained, which funds will be made available to small business concerns or other organizations owned and controlled by socially and economically disadvantaged individuals . . . including Historically Black Colleges and Universities and minority educational institutions" Public Law 101-507 amended Public Law 101-144 to include women-owned businesses.



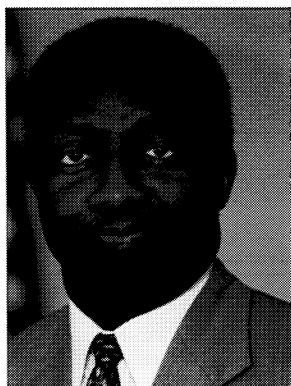
Measures of Our Success—QQI:

- Increasing the quantity of dollars to small businesses
- Improving the quality of contracts and subcontracts
- Institutionalization of successful initiatives into NASA policy

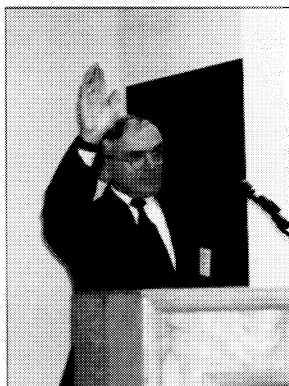
To promote the maximum utilization of small, small disadvantaged, and women-owned small businesses, including minority education institutions, the OSDBU team is sharply focused through its "QQI" strategy to 1) increase the total quantity of contract and subcontract dollars to small businesses, 2) improve the quality (high technology) of contracts and subcontracts to these small enterprises, and 3) institutionalize into permanent NASA policy the initiatives that proved to be successful in meeting the objectives above.

The implementation of OSDBU's QQI strategy is based on the types of businesses that NASA needs to accomplish the objectives of its mission.

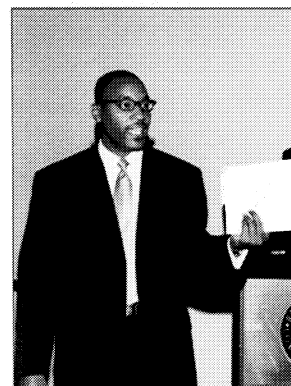
The performance results of the increased quantity of total dollars and the improved quality of the training programs are in the sections that follow.



Tom Green, Special Assistant for Procurement, OSDBU, NASA Headquarters.



Tony Diamond, Small Business Advisor and Program Manager for Space Flight, OSDBU.



Lamont Hames, Program Manager for Space Science and Earth Science Programs.



Vernell Jackson, Program Manager for Aerospace Technology and the Mentor-Protégé Program.



Anila Strahan, Program Manager for Biological and Physical Research, and International Initiatives.



Increasing the Quantity

Goal Metrics

As with other agencies, the SBA negotiates yearly goals with NASA for the involvement of small businesses in NASA prime contracts and subcontracts. Before the beginning of each fiscal year, the SBA sends a call letter to NASA outlining the requirements for each socioeconomic category. NASA Headquarters, in turn, queries the Field Centers to ascertain their projected contract/subcontract awards for the new FY. Enterprise offices at Headquarters, together with the OSDBU, review and validate the Center data based on historical achievements. After reaching internal agreement, NASA forwards its proposed goals to SBA for review and acceptance. Negotiations may be conducted between NASA and SBA to reach mutual agreement. If NASA and SBA are at an impasse, the OMB Office of Federal Procurement Policy resolves the differences. Subsequently, NASA Headquarters monitors the goal accomplishments during the year and compares them to the projected goals. Based on the analysis of data and the actual goals achieved, NASA modifies its socioeconomic goals for the following year. Each year, this cycle is repeated.

In addition, to ensure that small, disadvantaged, and women-owned businesses are able to bid or propose for contracts and subcontracts to the maximum practicable extent, NASA states its goals for small business utilization in its contract solicitations. All planned acquisitions over \$100,000 are reviewed to determine if they can be set aside for small businesses. NASA small business subcontract goals require each contract over the \$500,000 threshold (\$1 million for construction) to contain numerical percentage subcontracting goals for small businesses, small disadvantaged businesses, and women-owned businesses. Recently, new goal categories have been added for service-disabled-veteran-owned small businesses, veteran-owned small businesses, and small business concerns located in designated HUBZone areas. These goals are specified in the contract solicitations. In addition, all subcontract goals are expressed in terms of a percentage of the total contract value. When necessary, the NASA OSDBU facilitates interaction among small businesses, program/project managers who are responsible for performing the actual work, and the procurement personnel that put the contract in place. This enables prospective small business contractors to better understand the work requirements.

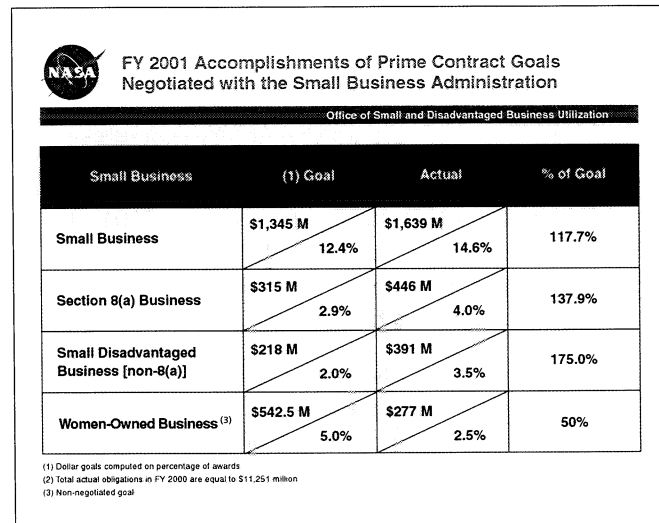


Figure 1

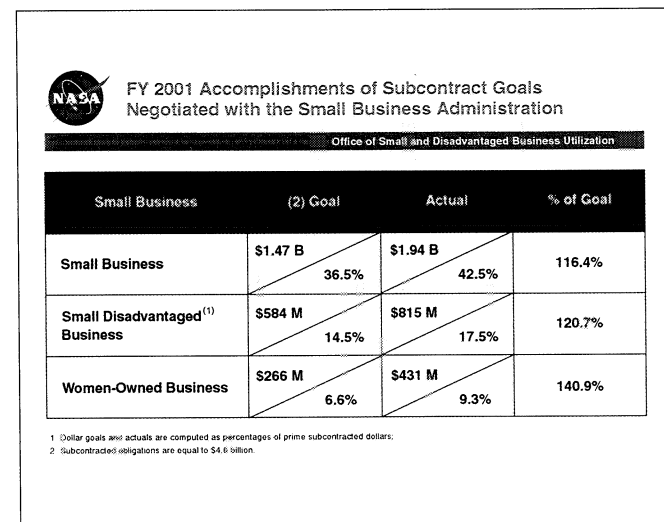


Figure 2

In FY 2001, NASA achieved record highs in awarding contract and subcontract dollars to small businesses, small disadvantaged businesses, and women-owned small businesses.

In FY 2001, NASA awarded its highest ever prime contract dollars to small businesses overall—\$1.6 billion, or 14.6 percent (see Figure 1)—and also awarded a high level of subcontract dollars to small businesses—\$1.94 billion, or 42.5 percent of subcontracts (see Figure 2), making a total of \$3.6 billion, also a record high for NASA.



In addition, NASA is required by law (P.L. 101-144) to award at least 8 percent of its prime and subcontract dollars to small, disadvantaged businesses (SDB), which include socially and economically disadvantaged businesses, Historically Black Colleges and Universities (HBCUs), Other Minority Institutions (OMIs), and women-owned small businesses. In FY 2001, NASA awarded 19.3 percent, or \$2.2 billion (see Figure 3), of its total procurement dollars to such firms—the highest figures in the Agency's history.

Moreover, NASA awarded 7.4 percent, or \$837 million, to small disadvantaged businesses in prime contracts, a higher amount than the Governmentwide goal of 5 percent. That is also a NASA record and is triple the dollars NASA awarded to such entities in FY 1992, when the Agency began its special initiatives for small and disadvantaged businesses.

Additionally, small businesses in the 8(a) program were awarded \$446 million—more dollars than at any time in NASA's history. That figure almost doubled the \$232 million Agency accomplishment in FY 1992.

In FY 2001, women-owned businesses also received more prime and subcontract dollars (\$708 million) from NASA than ever before (see Figure 4). This figure equates to 6.3 percent of NASA's total prime and subcontract dollars.

NASA met all of the goals it negotiated with the Small Business Administration (SBA) in accordance with Public Law No. 95-507. This does not include nonnegotiated goals that were assigned to all Federal agencies by the SBA.

Finally, in FY 2001, the amount of prime contract dollars that SDBs won competitively, outside of the 8(a) program, was \$391 million, which is nearly eight times the achievement in that category in FY 1992 (\$50 million).

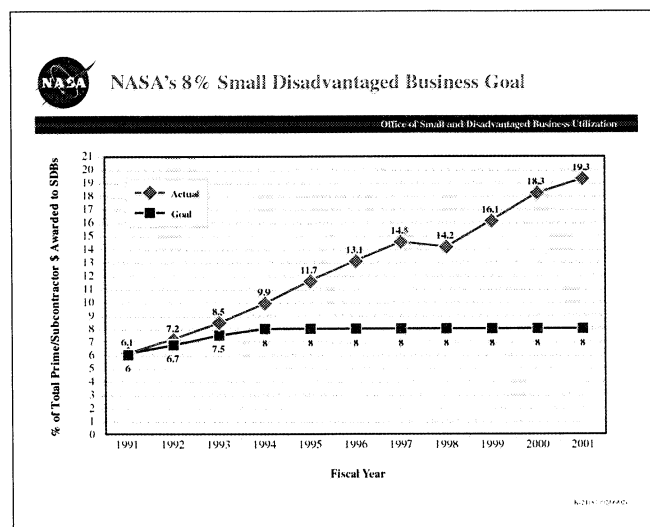


Figure 3

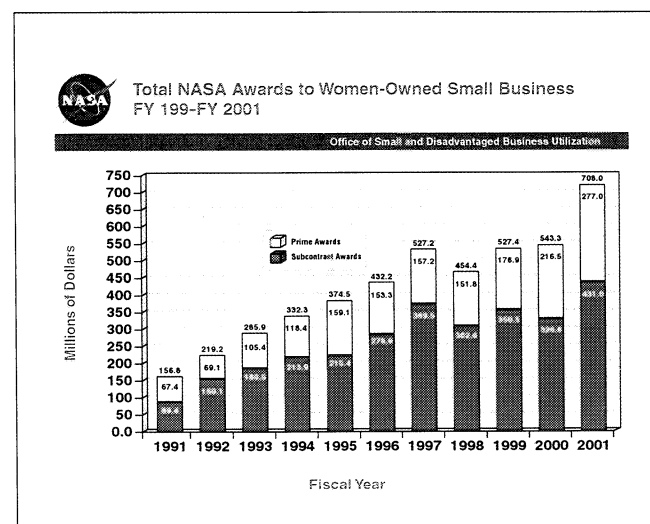


Figure 4



Improving the Quality

Programs and Initiatives

- Training and Development of Small Businesses in Advanced Technologies (TADSBAT)
- Aerospace Technology SDB Forum
- Semiannual Science Forum for Small Businesses
- Space Science Symposium for Small Businesses
- Mentor-Protégé Program
- How to Commercialize NASA Technology

Special Programs

- ISO Certification for Small Businesses
- Understanding Teaming Agreements
- International Initiatives

Focused Outreach

- NASA-JPL High Technology Conference
- NASA New England High Technology Conference/NASA Mentor-Protégé Conference

Focused In-reach

- Socioeconomic Procurement as a Business Imperative

To get the highest return on investment, the NASA OSDBU has designed, implemented, and facilitated user-friendly programs and initiatives to ensure the full integration of capable and high-quality small, disadvantaged, women-owned, and other small businesses into the competitive base of contractors from which NASA regularly purchases products and services.

In addition, the OSDBU has a focused outreach to communicate with its target small business constituents, as well as a focused in-reach program to educate NASA technical, procurement, and administrative personnel about NASA programs and policies. The OSDBU also disseminates information about its programs through conferences, forums, training and development programs, counseling, promotional materials, and the Internet.

Training and Development for Small Businesses in Advanced Technologies (TADSBAT)

To acquaint small businesses with the NASA culture, the OSDBU facilitates a course to train small businesses to improve their ability to compete for contracts in the highly technical and complex environment of NASA. This three-day intensive course represents a proactive approach to increasing the participation of small businesses in NASA's program by educating small, high-tech firms on how to reach the customer and by providing critical business development and project management training. In addition, in response to NASA's emphasis on safety in all its missions, the OSDBU added a training module on safety to ensure that safety exists in all NASA programs and initiatives for small businesses. The OSDBU also facilitates an advanced TADSBAT course that focuses on marketing, proposal development, and financial management. Since its inception in 1994, NASA has provided training to over 1,400 businesses with overwhelming success. The course is offered free (no registration fee). Additional information for this program can be obtained at <http://www.mta-inc.com>

October 31–November 2, 2000: TADSBAT Advanced Course—NASA Goddard Space Flight Center, Greenbelt, MD

Greetings

- Mary Kicza, Associate Director, NASA Goddard Space Flight Center (GSFC)

Understanding NASA's Small Business Programs

- Thomas V. Green, Jr., Special Assistant for Procurement, OSDBU, NASA Headquarters

NASA Mentor-Protégé Program

- Mel N. Roberts, Principal, Acquisitions Operations and Planning, Engineering and Science Directorate, NASA's Jet Propulsion Laboratory (JPL)

Marketing Methodologies Unique to NASA

- Mel N. Roberts, JPL

Roundtable Discussion and Networking

- All



Adequacy of Financial Management

- Scott Butler, CPA, Beason & Nalley, P.C.

ISO 9000

- Robert Chastine, President, MTA

Successful Proposal Preparation

- Dr. Jay Billings, VP Defense Systems Management Agency

March 13–15, 2001: TADSBAT Advanced Course—Greensboro, NC

Greetings

- Earnestine Psalmonds, Vice Chancellor for Research, North Carolina A&T State University

Understanding NASA's Small Business Programs

- Thomas V. Green, Jr., Special Assistant for Procurement, OSDDBU, NASA Headquarters

NASA Mentor-Protégé Program

- Mel N. Roberts, Principal, Acquisitions Operations and Planning, Engineering and Science Directorate, JPL

Safety

- Harold Beazley, Safety Officer, NASA Langley Research Center

Marketing Methodologies Unique to NASA

- Mel N. Roberts, JPL

How Partnerships Can Work

- Anngienetta Johnson, Director, Program Planning and Development, Office of Earth Science, NASA Headquarters

Market Opportunity Analysis

- Mel N. Roberts, JPL

Roundtable Discussion and Networking

- All

NASA Initiatives and HBCU/SB Partnerships

- Benita Bell, Program Manager, Office of Earth Science, NASA Headquarters
Donna Fortunat, Procurement Analyst, Office of Procurement, NASA Headquarters

NASA's Procurement Process

- Jay Billings, Vice President, Defense Systems Management Agency

ISO 9000

- Robert Chastine, President, MTA

Ensure Proposal Wins With Effective Bid/No Bid Decisions

- Mel N. Roberts, Principal, Acquisitions Operations and Planning, Engineering and Science Directorate, JPL

Other Proposal-Writing Concerns—Industry Perspective

- Jay Billings, Defense Systems Management Agency

Subcontracting

- Jay Billings, Defense Systems Management Agency

An HBCU/SB Partnering Success Story

- Fred Ferguson, Center of Aerospace Research, North Carolina A&T State University

Adequacy of Financial Management

- Scott Butler, CPA, Beason & Nalley, P.C.



June 19–21, 2001: TADSBAT Basic Course— Minneapolis, MN

Greetings

- Wendell Maddox, Midwest Aerospace Consortium of Small Business
- U.S. Congressman James Oberstar
- U.S. Congressman Martin Sabo

Remarks

- Senator Steve Kelly
- Mayor Norm Coleman
- Senator Paul Wellstone

Understanding NASA's Small Business Programs

- Thomas V. Green, Jr., Special Assistant for Procurement, OSDDBU, NASA Headquarters

Electronic Commerce Demonstration

- Robert Chastine, President, MTA
- Gloria L. Smith, MTA

HBCU Initiative and HBCU/SB Partnerships

- Thomas Green, OSDDBU, NASA Headquarters Small Business Market Approach to NASA
- Mel N. Roberts, Principal, Acquisitions Operations and Planning, Engineering and Science Directorate, JPL

Market Opportunity Analysis

- Mel N. Roberts, JPL

Roundtable Discussion and Networking

- All

Adequacy of Financial Management

- Scott Butler, CPA, Beason & Nalley, P.C.

Safety

- Michael Savage, Environment Safety and Health Compliance Manager, Lockheed Martin Space Operations Company

ISO 9000

- Robert Chastine, President, MTA

How to Prepare for a DCAA Audit

- Colleen Stelmach, Defense Contract Audit Agency

Strategic Planning

- Robert Chastine, President, MTA

Roundtable Discussion and Networking

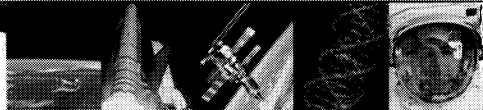
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Teaming Arrangements

- Andrew P. Hallowell, Esq., Piliero, Mazza & Pargament

Successful Proposal Preparation

- Jay Billings, VP, Defense Systems Management Agency



TADSBAT Course Evaluation Averages
October 31–November 2, 2000, NASA GSFC

Question	Evaluation
Overall Evaluation	Excellent
Facilities	Excellent
Instructor's presentation: "Understanding NASA's Small Business Program"	Excellent
Instructor's presentation: "Mentor-Protégé Program"	Excellent
Instructor's presentation: "Marketing Methodologies"	Very Good
Instructor's presentation: luncheon speaker on safety	Very Good
Instructor's presentation: "Adequacy of Financial Management"	Very Good
Instructor's presentation: luncheon speaker on ISO 9000	Very Good
Instructor's presentation: "Successful Proposal Preparation"	Very Good
Usefulness of content	Very Good
Usefulness of program materials	Well Used
Time spent in program	Well Used
How knowledgeable on the program subjects do you feel you were before the program?	Not Very
How knowledgeable on the program subjects do you feel you are after the program?	Very Good
How well did the TADSBAT program meet your expectations?	Very Well



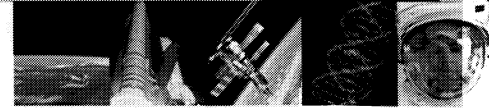
TADSBAT Course Evaluation Averages
March 13–15, 2001, Greensboro, NC

Question	Evaluation
Overall Evaluation	Excellent
Facilities	Excellent
Instructor's presentation: "Understanding NASA's Small Business Program"	Excellent
Instructor's presentation: "Mentor-Protégé Program"	Excellent
Instructor's presentation: "Safety"	Very Good
Instructor's presentation: "How Partnership Can Work"	Very Good
Instructor's presentation: "Market Opportunity Analysis"	Very Good
Instructor's presentation: "NASA Initiatives and HBCU/SB Partnerships"	Very Good
Instructor's presentation: "NASA Procurement Process"	Very Good
Instructor's presentation: "ISO 9000"	Very Good
Instructor's presentation: "Ensure Proposal Wins with Effective Bid/No Bid Decisions"	Very Good
Instructor's presentation: "Other Proposal-Writing Concerns—Industry Perspective"	Very Good
Instructor's presentation: "Subcontracting"	Very Good
Instructor's presentation: "An HBCU/SB Partnering Success Story"	Very Good
Instructor's presentation: "Adequacy of Financial Management"	Very Good
Usefulness of content	Very Good
Usefulness of program materials	Well Used
Time spent in program	Well Used
How knowledgeable on the program subjects do you feel you were before the program?	Not Very
How knowledgeable on the program subjects do you feel you are after the program?	Somewhat
How well did the TADSBAT program meet your expectations?	Very



TADSBAT Course Evaluation Averages
March 13–15, 2001, Greensboro, NC

Question	Evaluation
Overall Evaluation	Excellent
Facilities	Excellent
Instructor's presentation: "Understanding NASA's Small Business Program"	Excellent
Presentation: "Electronic Commerce"	Excellent
Presentation: "HBCU Initiative and HBCU/SB Partnerships"	Very Good
Presentation: "Small Business Market Approach to NASA"	Very Good
Presentation: "Market Opportunity Analysis"	Very Good
Presentation: "Adequacy of Financial Management"	Very Good
Presentation: "ISO 9000"	Very Good
Presentation: "Safety"	Very Good
Presentation: "How to Prepare for a DCAA Audit"	Very Good
Presentation: "Strategic Planning"	Very Good
Presentation: "Teaming Arrangements in 2001"	Very Good
Presentation: "Successful Proposal Preparation"	Very Good
Usefulness of content	Very Good
Usefulness of program materials	Well Used
Time spent in program	Well Used
How knowledgeable on the program subjects do you feel you were before the program?	Not Very
How knowledgeable on the program subjects do you feel you are after the program?	Somewhat
How well did the TADSBAT program meet your expectations?	Very



Collateral Value-Added Results—FY 2001

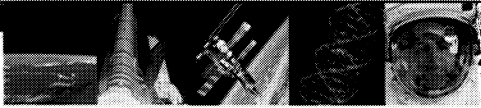
Although the purpose of TADSBAT is to teach small businesses how to do business with NASA, it is a significant plus when some of the firms indicate that they actually won contracts or subcontracts because of the course. Following are the results of a survey taken to assess the level of this occurrence.

The respondents comprised 24 businesses and 3 HBCUs/OMIs. Four (16.7 percent) of 24 businesses and 1 (33.3 percent) of 3 HBCUs/OMIs indicated they had received a NASA contract, a subcontract from a NASA prime contractor, and/or a NASA grant subsequent to attending a TADSBAT course.

Organization Type	Contracts	Subcontracts	Grants
SB/Asian-Pacific/Woman-Owned	1		
SDB/Woman-Owned/8(a)	1	1	
SB	20	5	5
Hispanic Business		1	
HBCU			3
Totals	22	7	8

Twenty-two (81 percent) of the respondents indicated they had attempted to market to NASA subsequent to attending a TADSBAT course. Nineteen (70 percent) of the respondents indicated that the TADSBAT course was beneficial.





TADSBAT Follow-Up Evaluations

Did the information obtained at the TADSBAT course assist you in the process of bidding or making the decision to bid? Explain.

- They give me the process and direction to make bids to NASA, but I need to be part of some organizations firms, like ISO 9000 and SBA section 8(a).
- Yes, we became more focused on the core capabilities of our company rather than trying to obtain "any" contract we could get.
- Yes, it explained the process.
- Yes, made me aware of winning chances and whether to bid or not.
- In general, the TADSBAT course has made me a more effective administrator and more sensitive to the complexity of doing business with NASA.
- Yes, knowledge of NASA environment and how NASA does business was helpful.
- Yes, the general information learned was useful.
- It definitely helped us with revamping our pricing structure. It made us more competitive, but our pricing was still too high to win. We are now lower than two-thirds of our competitors, but were still not winning contracts at NASA this year. We also tried to be more realistic on what we could possibly win, we submitted fewer proposals and we tried to target the few 8(a) JSC contracts issued for our business niche. The course also made us realize that teaming partnerships are a good idea but when we proposed this idea to companies in the Houston area, the reception was luke-warm.
- Yes, the course materials presented were very useful. Additionally it was very helpful to talk with several of the NASA people who dropped in at various times merely to make themselves available to the attendees.
- Yes, the TADSBAT course was helpful.
- Yes, we obtained an appreciation for NASA culture and environment.
- Yes, we have been awarded contracts from US Army, CDC, NIOSH, DOE, DISC, and the Navy since the class. I have used the knowledge for other agencies and have been successful.

How has the TADSBAT course benefited your firm/institution?

- On understanding the requirements for bidding with NASA.
- Contacts.
- They bring me the tools for making better decisions in my company.
- We have absolutely benefited from TADSBAT and all other NASA training. We are much better at: (1) Marketing, (2) Financial Management, and (3) Proposal preparation. Much of the improved methods can be attributed to TADSBAT.
- Increased general awareness of NASA procurement process.
- In general, the TADSBAT course has made me a more effective administrator. And more sensitive to the complexity of doing business with NASA.
- Although we held NASA contracts previous to the course, it made our company president and myself more knowledgeable about the way NASA does work. For example, negotiating a fixed-price contract extension in which NASA was to lower our costs on many items and personnel; we had to stand our ground and provide documentation that such pricing was standard pricing for personnel in the local marketplace and documented allowable costs that were in-line with pricing objectives covered in the advanced TADSBAT course.



Improving the Quality

Aerospace Technology SDB Forum and Semiannual Science Forum

Aerospace Technology SDB Forum

In continually seeking to identify high-tech SDBs capable of participating in NASA's most complex aeronautics programs as future contractors, the NASA OSDBU facilitates the Aerospace Technology SDB Forum. Every year, NASA holds a forum at two of its four aeronautics Field Centers in which three to five high-tech SDBs, including women-owned small businesses (WOSBs), HBCUs, and minority institutions (MIs) that possess technical capabilities compatible with the aerospace technology mission, are competitively selected to give presentations on their companies' capabilities to senior-level technical managers and senior procurement personnel from the individual Field Centers. From the forum's inception in 1993 through Fiscal Year 2001, more than \$85 million has been awarded to some of the presenters in contracts and subcontracts as a result of this forum. Two SDB Forums were held in FY 2001 at Dryden Flight Research Center in California and Langley Research Center in Virginia. Contract dollars awarded as a result of the FY 2001 forums went to an HBCU for \$500,000 and to two SDBs in the amounts of \$5 million and \$600,000, respectively.

Semiannual Science Forum for Small Business

In partnership with the NASA Office of Space Science and the Office of Earth Science, the OSDBU seeks to identify high-tech small businesses to participate in NASA's complex science programs. The Science Forum creates a "high-level marketing opportunity" for selected small businesses to present their capabilities to NASA managers, technical personnel, prime contractors, and procurement personnel. Through their tailored technical presentations, the small businesses explain how they can assist NASA in meeting its mission requirements in the areas of Earth science and space science. Small businesses have presented their capabilities in such areas as sensors, laser/lidar technology, remote sensing, and satellite science data processing. Since the inception of this program in 1997, over \$47 million in contracts and subcontracts has been awarded to participants.



Mary Kicza, NASA's Associate Administrator for Biological and Physical Resources, gives a presentation at the Semi-Annual Science Forum for Small Businesses at Goddard Space Flight Center.



Science Forum at JPL, FY 2001 Evaluations and Statistics

Date/Location: August 29, 2001, Jet Propulsion Laboratory (JPL).

Attendees: 150 small business representatives, 28 large business/Government representatives, and 55 JPL representatives.

Small Business Presenters

Innovision Technologies—Nikki Olyai and Steve Teodecki, Novi, MI

Ion Corp.—Wendell Maddox, Hopkins, MN

Mission Critical Technologies—Yorgos Stylianios, Beverly Hills, CA

Mori Associates—Masoud and Shana Deljoubar, Bethesda, MD

Sagebrush Technology—August Sanchez and George Wright, Albuquerque, NM

Tau Ceti Technologies—Paul Sweatman, Pasadena, MD

Evaluations by Attendees (verbal):

- "Valuable forum to meet directly with JPL technical personnel and to pursue business opportunities."
- "Appreciate being able to meet with JPL and prime contractors, as well as Government representatives at the Forum."
- "A valuable resource conference to pursue and market to JPL and others."
- "The handout of names and contacts, as well as Summary of Technical Capabilities (abstracts), provides an excellent resource for marketing to prime contractors and Government reps."
- "Appreciate the JPL/prime contractor panel discussion and Q&A on how to capture business."

First Science Forum: 1997

Increase in Attendance: The Science Forum had 40 attendees in 1997. Forum attendance has increased at the estimated rate of 30 percent each successive year.

Contracts Awarded as a Result of the Science Forum

Woman-Owned SDB, Culver City, CA\$ 250,000
SDB, Carlsbad, CA\$ 600,000
SDB, Bethesda, MD\$ 750,000
Woman-Owned SDB, Greenbelt, MD\$ 1,000,000
SB, San Diego, CA\$ 4,000,000
Woman-Owned SDB, Huntsville, AL\$ 41,000,000



Science Forum at GSFC, FY 2001 Evaluations and Statistics

Date/Location: July 25, 2001, Goddard Space Flight Center (GSFC).

Attendees: 30 small business representatives, 12 large business/Government representatives, 15 GSFC representatives.

Small Business Presenters

Tau Ceti Technologies—Paul Sweatmen, Gail Hall, and Ann Theune, Pasadena, MD

Global Aerospace Corporation—Kerry Nock, Altadena, CA

Science and Technology Corp.—George Wood and Tom Pool, Hampton, VA

IsComp Systems—Ted Davis, Jim Butts, and Paul Smith, Los Angeles, CA

ION Corp—Wendell Maddox, Tom Jones, DeWayne Wingate, Hopkins, MN

Evaluations by Attendees (verbal):

- "Valuable forum to meet directly with GSFC technical personnel and to pursue business opportunities."
- "Appreciate being able to meet with prime contractors, as well as Government representatives at the Forum."
- "A valuable resource conference to pursue and market to GSFC."
- "The handout of names and contacts, as well as Summary of Technical Capabilities (abstracts) provides an excellent resource for marketing to prime contractors and Government reps."

The Value-Added Benefit of the Science Forum

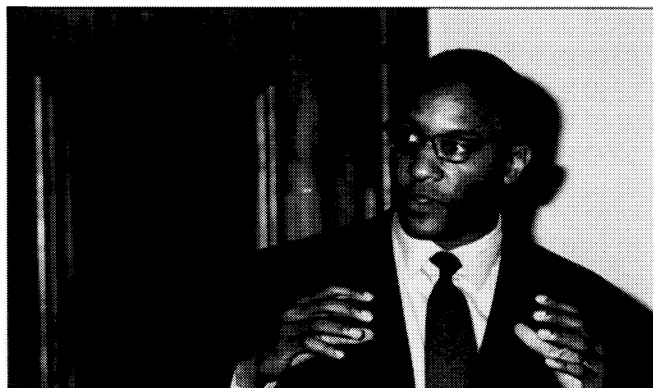
- Science Forum creates a "high-level marketing opportunity" for selected small businesses to market their capabilities to NASA managers, technical personnel, prime contractors, and procurement personnel.
- The forum provides the same access and marketing opportunity to other small businesses attending the Forum.
- Small businesses have presented their capabilities in such areas as sensors, laser/lidar technology, remote sensing, and satellite science data processing. Since the inception of this program in 1997, the Science Forum has had 50 presenters, and NASA has awarded \$40 million in contracts and subcontracts to some participants.



Improving the Quality Space Science Symposium for Small Businesses

Space Science Symposium for Small Businesses

The purpose of the symposium is to provide small businesses with an opportunity to see first-hand what NASA's science plans are for the current fiscal year and beyond. This Symposium is the Agency's only science, technical, and business education program for small businesses centered on NASA's three science enterprises: Earth Science, Space Science, and Biological and Physical Research. Small businesses that contributed to the Agency science mission have been very visible over the years with missions such as Mars Pathfinder, Deep Space 1, Lunar Prospector, Hubble Space Telescope, and Quikscat. The OSDBU's aim is to increase the participation of small businesses in NASA missions through this very focused symposium that provides an understanding of what is planned for the future. Typically, the symposium draws about 100 to 125 science-oriented small businesses from around the country. The Space Science Symposium for Small Businesses exposes companies to top NASA management, executives, and industry partners. While the primary purpose of this science symposium is education, some companies have also used the symposium as a marketing and networking opportunity. As a result, \$28 million in contracts and sub-contracts was awarded to some of the participants.



Lamont Hames, Program Manager for Science, OSDBU, NASA Headquarters.



Lamont Hames, OSDBU, setting the stage for the Science Symposium at JPL.



Mel Roberts (left), with his assistant (in white), of NASA's Jet Propulsion Laboratory, briefs Shana Deljoubar (middle left) and Massoud Deljoubar (right) of Mori Associates in Rockville, MD, on contract opportunities at the lab just prior to the Space Science Symposium for Small Businesses.



Improving the Quality Mentor-Protégé Program

NASA Mentor-Protégé Program

As NASA's premier technical and business development initiative, the Mentor-Protégé Program is designed to provide small, disadvantaged businesses (SDBs); women-owned small businesses; Historically Black Colleges and Universities (HBCUs); and Other Minority Institutions (OMIs) with high-tech subcontracting opportunities on NASA contracts. The program enriches the experience, relationship, and competence of participants through its developmental focus and exposure to new technical capabilities as they perform on NASA subcontracts. Participants that successfully entered and completed their Mentor-Protégé Agreement found themselves to be more strategically focused and able to compete for NASA contracts.

The NASA Mentor-Protégé program is designed to encourage NASA's major prime contractors to assist SDBs in expanding their technical capabilities into high-tech areas where such firms are currently underrepresented. This program is designed to increase the participation of SDBs in NASA's high-tech contracts and subcontracts. In addition, the program is designed to foster the establishment of long-term business relationships between SDBs and major NASA prime contractors. Prime contractors receive a variety of incentives for participating in this program. The Mentor-Protégé Program was a pilot program from 1995 to 1999 and was so successful that it has been institutionalized permanently into the NASA procurement process.

A NASA Mentor-Protégé Conference is held in August of each year and attracts hundreds of potential mentors and protégés. To date, the OSDBU has facilitated approximately 30 Mentor-Protégé partnerships. In FY 2001, the NASA OSDBU approved 14 Mentor-Protégé partnerships.



Vernell Jackson, Program Manager, Mentor-Protégé Program.



Glenn Wright, Director of NASA's Business Outreach Center in New England, shares the podium with Mentor-Protégé Co-Program Manager Lamont Hames.



Ronald Langston, National Director of the Minority Business Development Agency within the Department of Commerce, is a keynote luncheon speaker.

Mentor-Protégé Agreements Signed in FY 2001



Harold Stinger (left) of SGT, Inc. (Protégé), shakes hands with Mel Roberts of JPL (Mentor) after signing the NASA Mentor-Protégé Agreement approved by NASA's Ralph Thomas (center) as Lamont Hames (back) looks on.



Gloria Smith of Smithlain Enterprises explains her Protégé relationship with Bob Chastine, MTA Inc. (Mentor).



Mentor-Protégé Award Recipients for FY 2001 with NASA representatives after receiving the Mentor-Protégé Award from Ralph Thomas. Appearing from left to right are Stan McCall of MSFC, Vernell Jackson of Headquarters OSDBU, Lamont Hames of Headquarters OSDBU, Elizabeth Morard of Qualis Corporation (Protégé), Lou Miller of Sverdrup Corporation (Mentor), Ralph Thomas of Headquarters OSDBU, and John Stephenson of MSFC.



Lamont Hames, Co-Program Manager of the Mentor-Protégé Program, OSDBU, hosts his own version of the "Weakest Link" quiz show to test willing volunteers on how much they remembered of the NASA Mentor-Protégé Program just presented to them.



Improving the Quality How to Commercialize NASA Technology



Ralph Thomas presents the overview of the NASA Technology Commercialization Program.

Technology Transfer and Commercialization Program

To spur small businesses to actively pursue opportunities for commercializing NASA technology, the OSDBU, in conjunction with the Minority Owned Business Technology Transfer Consortium (MBTTC), a Washington, DC-based trade association, offered a pilot course entitled "How to Commercialize NASA Technology." Although the area of technology commercialization for NASA formally resides in the Office of Aerospace Technology (Code R), the OSDBU targets its course specifically for small businesses to help them understand the full spectrum of the technology commercialization process (see the course outline below) and includes instructors from Code R as well as representatives from the Technology Commercialization offices of the NASA Field Centers. In FY 2001, this course was taught as a pilot program by NASA and affiliated instructors at three different locations (see below). Small businesses received indepth coverage of subject areas such as the NASA Commercialization Technology Network, how to identify NASA technologies, how to work with NASA researchers and scientists, how to apply for licensing agreements, and how to find financing sources. NASA also provided first-hand accounts of success stories from small business firms that have successfully commercialized NASA technology and are reaping the rewards and benefits. Details on these three training sessions are provided below.

November 15–16, 2000: Washington, DC

Number of Attendees: 35

Overview of NASA Technology Commercialization Program

- Ralph Thomas, Associate Administrator, OSDBU, NASA Headquarters, Washington, DC

Success Stories

- Charles Harper, President and CEO, Sierra Monolithics, Redondo Beach, CA
- Jayant Ramakrishnan, Vice-President of Engineering, Dynacs Engineering, Clearwater, FL

NASA Commercial Technology Network

- George Alcorn, Chief, Commercial Technology Office, NASA Goddard Space Flight Center (GSFC), Greenbelt, MD
- Richard Tripp, Business Development Specialist, Mid-Atlantic Technology Applications Center (RTTC), Pittsburgh, PA

NASA SBIR and STTR Models

- Mike Battaglia, Commercial Programs Manager, NASA Headquarters, Washington, DC

Applying for a License to Commercialize NASA Technologies, Negotiating the Licensing Agreement (Intellectual Property Rights Royalties, Patent Issues—Exclusive/Nonexclusive/Partially Exclusive Licenses, Technical Assistance—Intellectual Property Negotiation)

- Guy M. Miller, Chief Patent Counsel, Technology Commercialization Office, NASA GSFC, Greenbelt, MD

NASA Entrepreneurial Partnerships

- June Edwards, NASA Headquarters, Washington, DC

Identifying Available NASA Technologies, Technology Assessment, Company Assessment

- Joe Allen, Vice President for Market and Technology Assessment, National Technology Transfer Center, Wheeling, WV



Partnering with NASA Researchers and Scientists

- David Shannon, Technology Commercialization Project Manager, Technology Applications Group, NASA Langley Research Center, Hampton, VA

Accessing Financing and Venture Capital Sources

- Jamil Sopher, Executive Vice President and Chief Operating Officer, Unisphere, Arlington, VA
- Ralph Thomas, Associate Administrator, OSDBU, NASA Headquarters, Washington, DC

Lunch Speaker

- Jamil Sopher, Executive Vice President and Chief Operating Officer, Unisphere, Arlington, VA

Developing a Technology Commercialization Marketing Plan

- Dan L. Winfield, Senior Commercialization Manager, Research Triangle Institute, Research Triangle Park, NC

NASA Case Study

- Karen Thompson, NASA KSC, Kennedy Space Center, FL
- Steven Sojourner, Manager of the Mechanical Development and Test Department, Dynacs Information & Applied Technology, NASA KSC, Kennedy Space Center, FL

International Space Station Commercial Development Plans

- Lance Bush, International Space Station Commercial Development Manager, NASA Headquarters, Washington, DC

Evaluation Ratings for November 2000

Excellent 45%
Very Informative 36%
Informative 18%
Somewhat Informative 0.2%
Not Informative 0.8%

April 4–5, 2001: Florida

Number of Attendees: 28

Overview of NASA Technology Commercialization Program

- Ralph Thomas, Associate Administrator, OSDBU, NASA Headquarters, Washington, DC

Success Stories

- Charles Harper, President and CEO, Sierra Monolithics, Redondo Beach, CA
- Jayant Ramakrishnan, Vice-President of Engineering, Dynacs Engineering, Houston, TX

NASA Commercial Technology Network—Accessing NASA Technology

- Dan Culbertson, Lead, Technology Transfer and Commercialization, NASA KSC, Kennedy Space Center, FL
- Dave Makufka, Technology Transfer Officer, NASA KSC, Kennedy Space Center, FL

NASA SBIR and STTR Models

- Mike Battaglia, Commercial Programs Manager, NASA Headquarters, Washington, DC

Applying for a License to Commercialize NASA Technologies, Negotiating the Licensing Agreement (Intellectual Property Rights Royalties, Patent Issues Exclusive/Nonexclusive/Partially Exclusive Licenses, Technical Assistance—Intellectual Property Negotiation

- Guy M. Miller, Chief Patent Counsel, Technology Commercialization Office, NASA GSFC, Greenbelt, MD

NASA Incubators

- Dave Kershaw, Director, FNBIC/NASA Incubators, Titusville, FL



Regional Sources for Technology Commercialization Opportunities

- Patti Beaulieu, Licensing Associate, Technology Transfer Office, Dartmouth College, Hanover, NH
- Cheryl A. Harrison, Small Business Specialist, NASA JSC, Houston, TX
- Tom W. Knight, SBIR Success Story Coordinator, NASA MSFC, Marshall Space Flight Center, AL

Identifying Available NASA Technologies, Technology Assessment, Company Assessment

- Joe Allen, Vice President for Market and Technology Assessment, National Technology Transfer Center (NTTC), Wheeling, WV

Partnering with NASA Researchers and Scientists

- David Shannon, Technology Commercialization Project Manager, Technology Applications Group, NASA Langley Research Center, Hampton, VA

Accessing Financing and Venture Capital Sources

- Donald Zillioux, Ph.D., Strategic Development Worldwide, San Diego, CA
- Ralph Thomas, Associate Administrator, OSDBU, NASA Headquarters, Washington, DC

Lunch Speaker

- Frank Kinney, Executive Director, Technological Research and Development Authority, Titusville, FL
- Developing a Technology Commercialization Marketing Plan
- Dan L. Winfield, Senior Commercialization Manager, Research Triangle Institute, Research Triangle Park, NC

Evaluation Ratings for April 2001

Excellent 66%
 Very Informative 26%
 Informative 6%
 Somewhat Informative 2%
 Not Informative 0%

NASA Case Study: "The Launch of NetLander as an Information Technology Management Company via Exclusive Licensing and Commercialization of the NASA KSC 'Internet Display of PC GOAL Real-Time Data Using Java (JView)'"

- Melanie Chan, NASA KSC Licensing Manager
- Tom Beever, President, NetLander, Inc., Titusville, FL

July 18–19, 2001: Cleveland, OH

Number of Attendees: 35

Overview of NASA Technology Commercialization Program

- Ralph Thomas, Associate Administrator, OSDBU, NASA Headquarters, Washington, DC

Success Stories

- Jayant Ramakrishnan, Vice-President of Engineering, Dynacs Engineering, Houston, TX

NASA Commercial Technology Network—Accessing NASA Technology

- Gynelle Steele, NASA Glenn Research Center (GRC), Cleveland, OH
- Gail Wright, Battelle/Great Lakes Industrial Technology Center (GLITeC), Cleveland, OH

Identifying Available NASA Technologies

- Paula Clemons, Marketing Manager, NTTC, Wheeling, WV
- Steve Riddlebaugh, NASA GRC, Cleveland, OH

Partnering with NASA Researchers and Scientists

- Mark McDowell, NASA GRC, Cleveland, OH
- Sally Kline, Client Services Manager, GLITeC, Cleveland, OH

Developing a Commercialization Marketing Plan

- Paul Hicks, Research Engineer, Research Triangle Institute, NC

NASA Case Study: "Digital Interface Systems"

- Gail Wright, GLITeC, Cleveland, OH



Accessing Financing and Venture Capital Sources

- Jeff Hanson, Ohio Innovation Fund, Cleveland, OH
- Ralph Thomas, Associate Administrator, OSDBU, NASA Headquarters, Washington, DC

Success Stories

- Charles Harper, President and CEO, Sierra Monolithics, Redondo Beach, CA

Applying for a License to Commercialize NASA Technologies Negotiating the Licensing Agreement

- Guy M. Miller, Chief Patent Counsel, Technology Commercialization Office, NASA GSFC, Greenbelt, MD

Assistance from the RTTC

- Pierrette Woodford, Director Battelle/GLITeC, Cleveland, OH

NASA SBIR and STTR Models

- Mike Battaglia, Commercial Programs Manager, NASA Headquarters, Washington, DC

NASA Incubators

- Wayne Zeman, Lewis Incubator for Technology (LIFT), Strongsville, OH

Additional NASA Small Business Programs

- Lamont Hames, Program Manager, OSDBU, NASA Headquarters, Washington, DC



MBTTC President Vita Pickum (middle) and MBTTC Executive Director Rita Castillo Ford chat with an instructor during the workshop held in Cleveland, Ohio.

Evaluation Ratings for July 2001

Excellent 46%
Very Informative 42%
Informative 12%
Somewhat Informative 0%
Not Informative 0%



Attendees at the seminar "How to Commercialize NASA Technology."



Charles Harper, president and CEO of Sierra Monolithics, gives a firsthand account of how he successfully commercialized NASA technology to the attendees of the Technology Commercialization course held in Cleveland.



Institutionalization Socioeconomic Procurement as a Business Imperative

"Socioeconomic Procurement as a Business Imperative" is a one-day course given four times a year at different NASA centers to a cross section of the Agency's technical, procurement, and administrative personnel. The course emphasizes the value-added benefit of utilizing small, disadvantaged businesses (in addition to compliance with laws and regulations that require it). Offered since 1996, this course addresses questions, doubts, and concerns that individuals may have with the concept of small, disadvantaged business utilization. Hundreds have taken this

course, which has provided a positive frame of reference for NASA decisionmakers and personnel on the business imperative of using small businesses. To date, training has been provided to 600 Agency employees. In FY 2001, training was provided at NASA's Johnson Space Center, Marshall Space Flight Center, Kennedy Space Center, and Ames Research Center. A total of 200 attended the training. Attendee evaluation averages of those four sessions are provided below.

FY 2001 Course Evaluation Averages			
Overall Course Evaluation		Knowledge of Subject	
Excellent	100%	Excellent	98%
Very Good	0%	Very Good	2%
Fair	0%	Fair	0%
Poor	0%	Poor	0%
Delivery Technique		Coverage of Subject	
Excellent	97%	Excellent	98%
Very Good	3%	Very Good	2%
Fair	0%	Fair	0%
Poor	0%	Poor	0%
Learning Objective Accomplished		Class Participation	
Excellent	93%	Excellent	94%
Very Good	7%	Very Good	6%
Fair	0%	Fair	0%
Poor	0%	Poor	0%



Special Programs

NASA's HBCU/MI Program

NASA's 1-Percent Goal for HBCU/MI

In February 2001, NASA established a goal to include Historically Black Colleges and Universities (HBCUs) and other Minority Institutions (MIs) in NASA's prime and sub-contracting programs. The goal for the portion of total contracting dollars to be awarded to HBCUs/MIs by the end of FY 2002 was set at 1 percent. Based on the most recent data on contract expenditures (FY 2000), the new goal equates to \$105M. To facilitate the achievement of this goal, a Headquarters Working Group was established to analyze ways for meeting this goal. In its assessment, the Working Group concluded that four training classes would be necessary to cover the areas that would enable the HBCUs/MIs to do business with NASA. Two of these training classes are already in place—"Training and Development of Small Businesses in Advanced Technologies (TADSBAT)" and "How to Commercialize NASA Technology." However, we still need to develop classes on 1) how to market and win the NASA Small Business Innovative Research (SBIR) and 2) the NASA Small Business Technology Transfer (STTR), in addition to Principal Investigator training on program/project management techniques.

The FY 2001 accomplishment toward the HBCU/MI goal is approximately \$57M (\$46M in prime contracts and \$11M in subcontracts). This amount represents an increase of 8 percent over the FY 2000 period.



Standing, left to right: George Reese, Associate Administrator for Equal Opportunity Programs; Kathie Olsen, NASA Chief Scientist; and Ralph Thomas. Seated, left to right: HBCU presidents of Bowie State University, Norfolk State University, Hampton University, and Morgan State University.

HBCUs/MIs are continuing to participate actively in a variety of small business initiatives:

- Holding memberships on NASA's Minority Business Resource Advisory Committee
- Presenting university capabilities at the NASA Aeronautics and Science Forums
- Taking TADSBAT training classes hosted at HBCU/MI institutions
- Contributing to an online directory of HBCU/MI capabilities
- Participating in a cooperative agreement on the International Space Station program performing the Software Engineering Initiative
- Participating in the NASA Mentor-Protégé Program
- Participating in a cooperative agreement on integrated facility solutions and management options for NASA facilities
- Participating in NASA's University Research Center (URC) capabilities presentations at NASA's Prime Contractors Roundtable
- Participating in URC's technologies exhibits at NASA's national conferences
- Forming an SDB/HBCU partnership to develop a modeling management concept for HBCU/MI activities



Special Programs

ISO Certification for Small Businesses and Understanding Teaming Agreements

ISO 9000 Certification

To enhance the competitive advantage of small businesses, the NASA OSDBU provides access to information on the ISO certification process.

ISO 9000 is a set of quality standards and guidelines for a quality assurance management system that is accepted internationally.

Since 1996, NASA has conducted classes at its major conferences for small businesses on how to become ISO certified. In FY 2001, NASA conducted ISO certification workshops at the NASA JPL High Technology Conference and the NASA New England High Technology and Business Conference. In these workshops, the NASA OSDBU provides experts that demonstrate how small businesses can receive technical assistance and achieve ISO certification at minimal cost.

In May 2000, the NASA OSDBU staff became the first and only organization of its kind in the Federal Government to receive its ISO 9001 certification.

Understanding Teaming Agreements

The OSDBU wants to ensure that small businesses are aware of the fundamentals of an effective teaming agreement. Taught by OSDBU's Ralph Thomas, this seminar is designed to enable small businesses to understand the legal structure of written teaming agreements, as well as the factors to consider when choosing a potential teaming partner.

During FY 2001, the seminar on teaming agreements was provided at various locations, such as the NASA/JPL High Technology Small Business Conference in Los Angeles, CA; the Annual Federal OSDBU Directors Procurement Conference, in the Washington, DC, area; the NASA Technology and Business Conference in Providence, RI; and the NASA Goddard Small and Disadvantaged Business Conference in Greenbelt, MD. The attendance at each seminar has been between 40 and 100 small businesses.



Ralph Thomas presents the "Teaming Agreements" workshop during the NASA/JPL High Technology Small Business Conference in California coordinated by JPL, February–March 2001.



Attendees at the seminar "Understanding Teaming Agreements" presented by Ralph Thomas at NASA Goddard Space Flight Center, May 2001.



Special Programs

MBRAC and NASA Prime Contractors' Roundtable

NASA Minority Business Resource Advisory Committee (MBRAC)

In July 1992, NASA established the Minority Business Resource Advisory Committee (MBRAC) by bringing in small business utilization expertise from outside the NASA structure. The two primary objectives of MBRAC are to help NASA expand its base of contractors to include more SDBs and to improve NASA's existing procurement mechanisms. The MBRAC members represent diversity of ethnic, gender, demographic, and business backgrounds. Its membership includes some of the most accomplished SDBs in the aerospace industry.

The MBRAC gathers information, analyzes facts, and makes recommendations to the NASA Administrator through the OSDBU Associate Administrator, who serves as the MBRAC Executive Secretary. NASA has implemented several MBRAC recommendations in the areas of procurement source selection criteria, contract fee structure, contracting goals, and the review of subcontract plans.

In FY 2001, three MBRAC meetings were held: in December 2000 at NASA Headquarters, in March 2001 at JSC, and in August 2001 at the Annual Technology and Business Conference in Providence, RI.



A meeting of NASA's Minority Business Resource Advisory Committee (MBRAC) at Johnson Space Center in Houston.

Based on the MBRAC's recommendation, one of the most significant actions in FY 2001 was the NASA Administrator's establishment of the goal of having one percent of the Agency's total contract and subcontract dollars awarded to HBCUs/MIs.

NASA Prime Contractors' Roundtable

The NASA Prime Contractors' Roundtable was designed to facilitate an exchange between NASA and its prime contractors. It also was designed to enable the primes to share information regarding their efforts in the development of subcontracting programs and the utilization of small disadvantaged businesses as subcontractors. The Roundtable was established in October 1993, and it is comprised of representatives from approximately 25 of NASA's top prime contractors. The Roundtable meets three times a year. Subcontract dollars to small disadvantaged businesses have doubled from \$500 million to over \$1 billion since the establishment of the Roundtable. In FY 2001, NASA held two Prime Contractors' Roundtable meetings in February 2001 (at JPL), and in August 2001 (at the Annual Technology and Business Conference in Providence, RI).



The NASA OSDBU Prime Contractors Roundtable Meeting in Providence, RI, featured representatives from Raytheon, TRW, Lockheed Martin, and Boeing.

Special Programs World Leadership Initiative

International Initiatives

NASA's approach to small and disadvantaged business utilization has been called a model not only across the United States, but throughout the world. Upon special invitation, Ralph Thomas has made presentations on the NASA Small Business Program to audiences in Finland, Hungary, India, Saudi Arabia, and Singapore. The OSDBU has also briefed foreign delegations that have visited NASA Headquarters. Representatives from such countries as France, India, Japan, Nigeria, South Africa, and Sweden have visited the NASA OSDBU to discuss NASA's Small Business Program. In 2000, NASA established a charter for

a working group with the World Association of Small and Medium Enterprises (WASME) for the development of an international "best practices" manual for the maximized utilization of small and medium enterprises (SMEs). The manual is designed to be an instructional tool for any world government desiring to effectively procure goods and services from small- and medium-size enterprises. In FY 2001, Ralph Thomas provided a draft of the manual at a meeting of the Governing Body WASME meeting held in Antalya, Turkey. The publication is scheduled to be completed in January 2002.



Members of the NASA-WASME International Best Practices include members from Turkey, Egypt, India, Nigeria, Japan, Singapore, and the United States.



Ralph Thomas (left) and Anila Strahan (right) meet with Nora Bougharouat (center), Small Business Coordinator for the European Space Agency, during her visit to the NASA OSDBU to study the Agency's programs and initiatives for small businesses.



Goddard Space Flight Center Director Al Diaz (far left) poses with Brazilian interns Luciana Botafogo and Bruno Quick, who worked in the Office of Small and Disadvantaged Business Utilization during the summer of 2001.



OSDBU's Tony Diamond meets with the South African delegation sent to study NASA's best practices regarding small businesses.



Ralph Thomas poses with Ms. Katarina Jagic, President of the Croatia Association of Small and Medium Enterprises, during the United Nations meeting on small businesses in Geneva, Switzerland.

Focused Outreach

(NASA-JPL High Technology Conference and NASA New England Conference)

The NASA OSDBU is the cohost of two major small business outreach conferences per year—the NASA/JPL High Technology Conference and the NASA Technology and Business Conference/NASA Mentor-Protégé Conference in New England. These one-stop-shop conferences give small businesses access to representatives from all of NASA's Field Centers and all of its major prime contractors. As a part of the conferences, the small businesses are provided opportunities to attend pertinent instructional workshops, seminars, and one-on-one counseling sessions. The NASA-JPL conference is held each year in early March, and the New England conference is held in late August.

These conferences also give the small businesses an opportunity to network with each other as well as with various NASA officials and representatives of major corporations. Several small businesses have written to the OSDBU, reporting that they have obtained contracts and/or subcontracts by attending these conferences. In recent years NASA has allowed such firms to give testimonials of their experiences at the start of the conference.

In addition, the NASA OSDBU annually supports many other small business conferences around the country that are sponsored by other Government agencies and private industry groups. The OSDBU supports these events by giving speeches or presentations on how to do business with NASA and by having exhibit or informational booths that are manned by NASA small business personnel. The OSDBU uses the small business specialists from its Field Centers to support these regional outreach conferences.



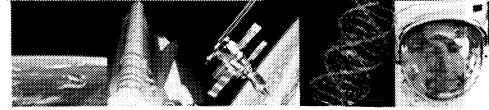
(L to R) Lieutenant Governor Paul Fogarty of Rhode Island is congratulated by OSDBU's Ralph Thomas and NASA New England Outreach Center Director Glenn Wright after giving his keynote opening address at the 2001 NASA Technology and Business Conference.



One-on-one counseling for small businesses.



NASA/JPL High Technology Conference, March 2001.



SMALL BUSINESS COUNSELING BY NASA FIELD CENTER SMALL BUSINESS SPECIALISTS.





NASA/JPL HIGH TECHNOLOGY BUSINESS CONFERENCE—MARCH 2001.





Small Business Recognition and Reward

Recognition and Reward

The NASA OSDBU visibly rewards those that have done exceptionally well.

Minority Businesses and Advocates Awards Ceremony

At this annual ceremony, NASA gives awards for the Minority Contractor of the Year, the Minority Subcontractor of the Year, and the Woman Owned Business of the Year. Each of NASA's 10 Field Centers may submit a nominee for each category. A special judges panel that consists of engineers, scientists, and other program managers (not directly associated with the NASA Small Business Program) evaluates the candidates. The OSDBU prepares a rating form for the judges, who then review each candidate and assess points for the categories that are being evaluated. The points are added up by the OSDBU and winners are selected.

The head of NASA presents all awards at an annual ceremony at NASA Headquarters, which is broadcast on NASA Television. This award ceremony is preceded by a "State of Small Business at NASA Address" delivered by the NASA Administrator.

Mentor-Protégé Award

The OSDBU awards the Mentor-Protégé of the Year Award at its Annual Mentor-Protégé Conference. The FY 2001 Mentor-Protégé Award winners were Lon Miller, Sverdrup Corporation (Mentor) and Elizabeth Morard, Qualis Corporation (Protégé).

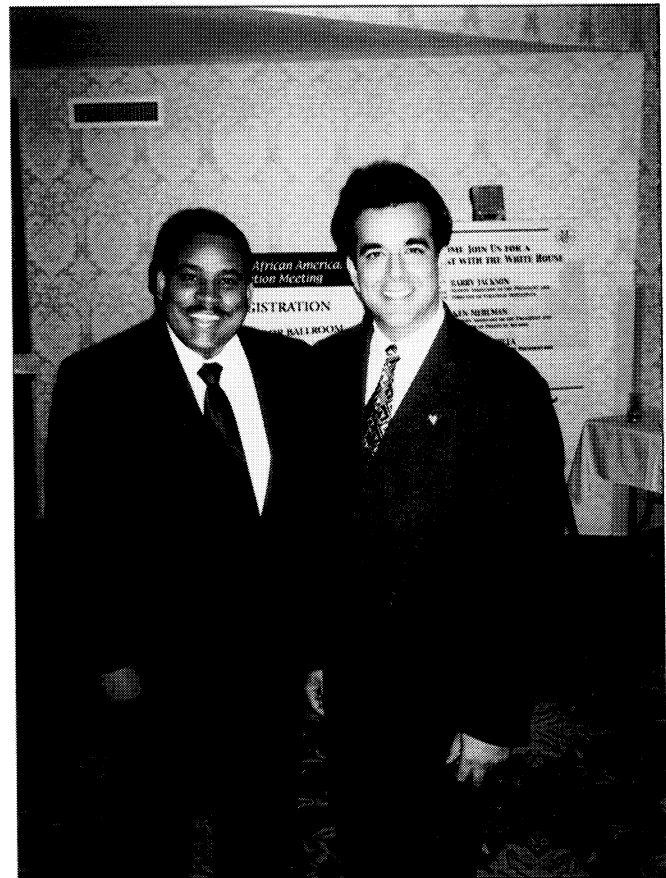
Recognition of NASA Personnel

The NASA OSDBU also rewards individuals within the Agency who have performed in an outstanding manner. Similar to its recognition and reward of small business, the OSDBU selects winners of the competitive NASA Exceptional Achievement Medal to acknowledge NASA personnel who have excelled in facilitating the utilization of small disadvantaged business in each of the following categories: 1) technical, 2) procurement, and 3) small business. In addition, performance awards are presented to those NASA Field Centers that have met or surpassed the annual small business goals they negotiated with Headquarters.

To the Agency and the American public, such visible participation by all those involved highlights the importance that NASA places on the utilization of small, disadvantaged, and women-owned businesses in the performance of NASA's missions.

The NASA OSDBU and its staff have been recognized for their achievements in implementing a model small business program.

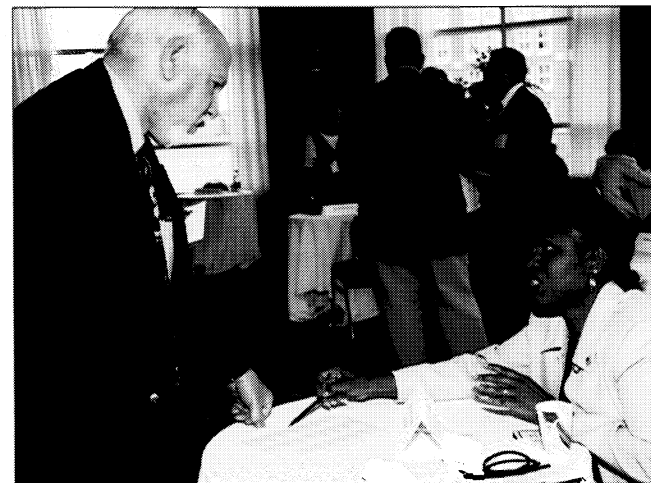
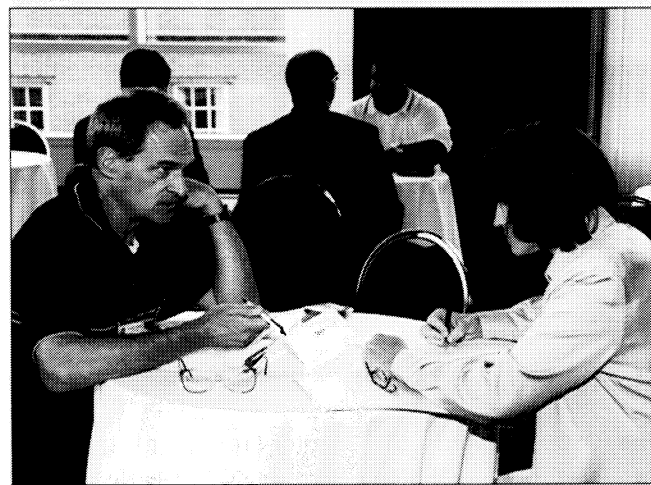
In FY 2001, the Small Business Specialists at the Field Centers received the NASA Group Achievement Award. The following photos represent just a sample of the awards that the OSDBU staff received.

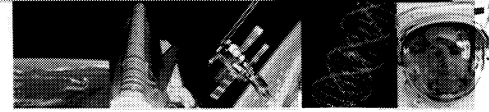


Hector Barreto (right), Administrator of the U.S. Small Business Administration (SBA), congratulates Ralph Thomas for NASA's FY 2001 small business accomplishments.

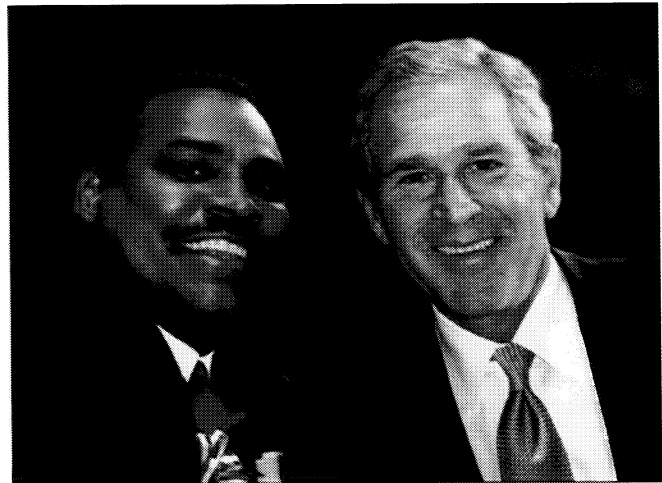


NETWORKING OPPORTUNITIES FOR SMALL BUSINESSES.





Ralph Thomas (at right) presenting the Mentor-Protégé Award to Lon Miller/Sverdrup (Mentor) and Elizabeth Morard/Qualis (Protégé).



Ralph Thomas, here with President George W. Bush, becomes the first head of a Federal OSDDBU to receive Presidential Rank of Distinguished Executive.



OSDBU's Tony Diamond (left) receives Exceptional Service Medal; OSDBU's Ralph Thomas receives Outstanding Leadership Medal; and Dryden Flight Research Center Small Business Specialist Robert Mediana receives Group Exceptional Achievement Medal on behalf of all Center Small Business Specialists.



Ralph Thomas formally recognizes Center Small Business Specialists for winning NASA's Group Achievement Award.



Small Business Success Stories

NASA'S SMALL BUSINESS SUCCESS STORIES

One of the most rewarding areas for the OSDBU is to showcase the success stories of small businesses that have contributed to NASA's most critical space missions, both by their outstanding performance and through cost savings to the Agency. As such, the OSDBU will not limit its small business success stories to a particular fiscal year, and it will add new small business success stories as they become available. In subsequent years, the OSDBU will use its discretion to delete old success stories.

The International Space Station

Cal Tron Systems, Inc., of Carson City, CA, a small disadvantaged business, developed and manufactured five sensor and effector simulators, a hardware-based system that was installed into the Space Station's integration laboratory. The parts simulate ground testing of problems which could occur on the Space Station and allow for corrective solutions for the future safety of the astronauts. The general manager for the program stated that the company's exemplary performance could serve as a "model" for the rest of the aerospace community.

Frontier Electronic Systems, a small disadvantaged woman-owned business in Stillwater, OK, produced the Space Station's extravehicular maneuvering unit audio control panel. This panel enables the astronaut who is assembling the Space Station from the outside to communicate with astronauts inside the vehicle and with the Mission Control Center in Houston, TX, during his or her "space walk."

On a recent service mission to the Space Station, a Canadian astronaut connected the robotic arm to the Space Station during a space walk. **BST Systems**, a graduated 8(a) firm, located in Plainfield, CT, manufactured the batteries for the astronaut's backpack, which allowed him to breathe.

Bergaila Engineering Systems (BES), a woman-owned small business located in Houston, TX, won NASA's Mentor-Protégé of the Year Award, because of her unique, high-tech performance as a subcontractor to Johnson Engineering Corporation, a small business located in Webster, TX.

Prior to its NASA experience, BES was primarily serving the refining, petrochemical, and pipeline industries with high-level engineering services, which included finite element analysis. During its mentor-protégé relationship with Johnson Engineering, BES used finite element analysis software to transfer engineering practices and principles from the petrochemical/refining industry to the aerospace industry.

The company designed, analyzed, fabricated, and delivered an International Space Station Airlock Module Astronaut Trainer for use in the Neutral Buoyancy Laboratory under tight schedule constraints. In accomplishing these tasks, BES saved NASA \$400,000 in costs.

Moreover, BES demonstrated exceptional performance in meeting critical schedule requirements for the NASA Engineering & Robotics Group by providing a Payload Bay Trainer nine weeks earlier than proposed by other bidders—and at approximately one half the cost.

The Galileo Mission

Murietta Circuits of Anaheim, CA, a small disadvantaged business, was pivotal in saving a major NASA program. The Galileo mission involved sending a spacecraft 2.5 billion miles over a six-year period to the planet Jupiter. Galileo's mission was to photograph and gather data on the gaseous planet and its moons and to release a probe into the planet's turbulent atmosphere.

After the Galileo spacecraft was launched, however, the main antenna failed to unfurl properly. This meant that most of the data generated from the spacecraft's mission could not be transmitted back to Earth. NASA engineers reconfigured a secondary antenna, however, that transmitted data at an extremely low rate. In fact it was 10,000 times weaker than the signal from the primary antenna. Murietta's role was to assist NASA in its efforts to enhance Galileo's signal strength through the secondary antenna.

Through a process called the Full Spectrum Initiative, the NASA engineers reconfigured the antenna so that it could relay data at about 100 times the secondary antenna's rate of transmission. Murietta Circuits manufactured all of the electronic boards for the Full Spectrum Initiative. It produced these highly sophisticated boards and delivered them finished, tested, and manufactured to NASA's high reliability standards, on time, within budget, and with zero defects.



As a result, 70 percent of the data generated by the Galileo Mission was recovered. The data that was successfully relayed back to Earth from Galileo included 1,500 photographic images of Jupiter and its moon as well as extensive information about the powerful magnetic field that surrounds the giant planet.

The Mars Pathfinder

In July 1997, the Mars Pathfinder landed successfully and safely on the Red Planet. It was mankind's first encounter with rocks on another planet. The lander part of the spacecraft was expected to transmit Mars' data to NASA for about one month. The manufacturer of the batteries that provided the power for such transmission was a small, disadvantaged business, **BST Systems** of Plainfield, CT. It is important to note, however, that although BST's contract with NASA's Jet Propulsion Laboratory called for the batteries to last for one month. Instead, they instead lasted for three months.

Lunar Prospector

In 1998, the Lunar Prospector rocketed off pad 46 at Spaceport Florida's new commercial complex at Cape Canaveral. The spacecraft orbited about 63 miles above the Moon's surface, gathering data remotely. It did this much like a camera takes measurements on the amount of light being reflected or emitted by objects in its field of view without ever coming into actual contact with them.

The Lunar Prospector's mission was to provide definitive evidence of the existence or absence of water ice in the shaded lunar polar regions. The spacecraft was equipped to detect 10 or more key minerals (such as iron, titanium, and rare Earth elements) as well as any tectonic and volcanic activity on the Moon. In addition, it was geared to map the lunar magnetic and gravitational fields.

Symtech Corporation, a small disadvantaged business, of Arlington, VA, created and maintained the Web site for the mission. The Web site was hailed by television network CNN as NASA's "best ever." The Web site recorded 15 million hits only four days into the mission. It contains more images, videos, and data about the Moon than any other single location in history. The site offers 50,000 images and will grow to a staggering total of about 2 million stills by the mission's end.



Liz Nevils (right), of Bergaila Engineering Services, with Frank Laguong (left).



Knox Tull (left), of Jackson and Tull, with NASA's Ralph Thomas (right).



Maximino Solis, CEO of BST Systems, Inc.



Hubble Space Telescope

In December 1999, the crew of the Space Shuttle Discovery installed a new computer into the \$3 billion Hubble Space Telescope during its successful servicing of the super-large observatory situated in outer space. The computer is 20 times faster with six times more memory than its predecessor. This computer dramatically increased the telescope's capabilities, reduced maintenance, and significantly lowered operational costs. **Jackson & Tull**, a small disadvantaged business, located in Washington, DC, built the computer.

Space Shuttle *Atlantis* Launch

Meanwhile, in May 2000, a unique technology by **Dynacs Engineering**, a graduated 8(a) firm, of Clearwater, FL, prevented a launch delay of Space Shuttle *Atlantis*, which was on its way to the International Space Station for a critical servicing mission. Two weeks prior to the Shuttle's launch, a critical hydraulic system component aboard the spacecraft failed a routine test.

It was determined that a 320-pound power drive unit (PDU) which controls the orbiter's speed brakes and tail rudder was defective and would require replacement prior to launch. The replacement of this component had never been attempted with the Shuttle in the vertical position on the pad. The normal replacement of this component is performed at the Kennedy Space Center's Orbiter Processing Facility (OPF) with the orbiter in a horizontal position. In an effort to prevent a postponement of *Atlantis*, the Shuttle program managers explored options on how to perform this replacement of components on the Shuttle launch pad.

The key technical challenge was how to simultaneously cap six titanium hydraulic lines that lead to and from the PDU to allow for the removal of the unit while preventing air intrusion into the system during the component's replacement. Dynacs' engineers came up with a concept to freeze (-180 °F) the hydraulic fluid inside the pipe and create "frozen plugs" by wrapping liquid nitrogen (LN2) cooled tubing around the outside of the titanium lines. Dynacs built a full-scale model of the hydraulic lines, and the concept to freeze the line was successfully demonstrated just three days after the initial request from Shuttle management. Two days later, Dynacs installed its

system on the six titanium lines on *Atlantis* and started the process to establish and maintain the frozen plugs throughout the 30-hour PDU change-out process. In just two more days, the PDU and hydraulic system was tested and accepted for launch.

Space Shuttle *Atlantis* was successfully launched on May 19, 2000, and docked with the International Space Station on May 29, 2000. Dynacs personnel were credited with preventing a launch delay and for saving possibly millions of dollars in additional Shuttle processing time through their innovative approach to the problem.



Jayant Ramakrishnan of Dynacs Engineering.



NASA OFFICE OF SMALL AND DISADVANTAGED BUSINESS UTILIZATION 2002-2003 SCHEDULE OF EVENTS

I. Quarterly Aeronautics SDB Forum

Dryden Research Center
POC: Robert T. Medina
650-604-4690

October 24-25, 2002

Langley Research Center
POC: Vernon Vann
216-433-02786

June/July 2003

II. 2002-2003 TADSBAT Dates/Locations

Denver, CO (Basic)

October 8-10, 2002

Kennedy Space Center (Advanced)

February 11-13, 2003

Ames Research Center (Advanced)

May 13-15, 2003

NASA Headquarters (Advanced)

September 10-13, 2003

POC: MTA 1-800-933-8483

256-922-1110

E-mail: tadsbat@mta-inc.com

<http://www.mta-inc.com>

III. Other Events

Minority Business & Advocates Awards

September 2002

POC: Lamont O. Hames

202-358-2088

Space Science Symposium for Small
Business at JPL

March 2003

Los Angeles, CA

POC: Mary Helen Ruiz, 818-354-7532

13th Annual Procurement Opportunities Conference

April 2003

POC: Federal Small Business

Technology Council

1-800-878-2940

301-206-2940

E-mail: expo@clark.net

A-76 Institute

October 17, 2002

The Ronald Reagan Building

Washington, DC 20004

202-466-0503



IV. Semiannual Sciences Forum

GSFC SDB Conference/Forum
POC: Rosa Acevedo
301-286-4726
POC: Gil DeValle
301-286-8136

July 25, 2002

JPL Science Forum
POC: Art Duran
818-354-7531
http://acquisition.jpl.nasa.gov/boolsci_sym.htm

August 27, 2002

V. National Conferences

JPL/NASA 15th Annual High-Tech
POC: Margo Kuhn
818-354-5722
<http://acquisition.jpl.nasa.gov/boo>
E-mail: margo.p.kuhn@jpl.nasa.gov

March 6–7, 2003

11th Annual NASA Technology and Business Conference
The Westin Providence
Providence, RI
POC: Glenn Wright
<http://www.cyc.org>

August 13–15, 2002

7th Annual Mentor-Protégé Conference
The Westin Providence
Providence, RI
POC: Glenn Wright
1-800-861-5037

August 13–15, 2002

VI. How To Commercialize NASA Technology

Houston, TX
POC: Rita Ford
202-722-7601
<http://www.mbtcc.org>

October 2002

Location TBA
POC: Rita Ford
202-722-7601
<http://www.mbtcc.org>

Date TBA

Location TBA
POC: Rita Ford
202-722-7601
<http://www.mbtcc.org>

Date TBA



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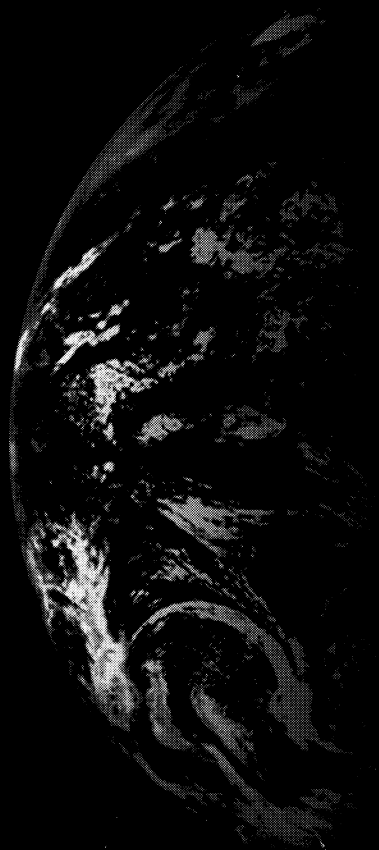
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To request copies of the 2001 Annual Report, please call 202-358-2088.

Note that this Annual Report will be available from the NASA OSDBU Home Page: <http://www.hq.nasa.gov/office/codek>



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